

CLAIMS

What is claimed is:

1. A transferring apparatus provided between a plurality of carrying apparatuses, each carrying apparatus comprising:

support means for supporting carried products,

guide means for controlling the moving direction of the support means, the guide means being provided along a processing apparatus for processing the carried products, and

moving means for moving the support means along the guide means,

the transferring apparatus including:

synchronization control means for synchronizing the moving means of one carrying apparatus with the moving means of another carrying apparatus; and

at least one hand-over means for receiving the carried products from the support means of the one carrying apparatus and handing over the carried products to the support means of the other carrying apparatus.

2. The transferring apparatus according to Claim 1,

wherein the hand-over means receives some carried products selected among the plurality of the carried products which are carried by the one carrying apparatus.

3. The transferring apparatus according to Claim 1,

wherein the hand-over means receives all the carried products which are

carried by the one carrying apparatus.

4. The transferring apparatus according to Claim 1, further comprising at least one buffer means for temporarily storing the carried products between the one carrying apparatus and the other carrying apparatus.

5. The transferring apparatus according to Claim 4, wherein the transferring apparatus is integrated with each of the carrying apparatuses.

6. The transferring apparatus according to Claim 5, wherein each of the carried products comprises a substrate wafer.

7. The transferring apparatus according to Claim 6, wherein the substrate wafer comprises a semiconductor wafer.

8. The transferring apparatus according to Claim 5, wherein each of the carried products comprises an electronic device manufacturing substrate.

9. The transferring apparatus according to Claim 8, wherein the electronic device manufacturing substrate comprises a liquid crystal device substrate.

10. The transferring apparatus according to Claim 8,

wherein the electronic device manufacturing substrate comprises a quartz device substrate.

11. The transferring apparatus according to Claim 4,
wherein each of the buffer means is provided in combination with each of the hand-over means.

12. The transferring apparatus according to the Claim 4,
wherein the buffer means is shared by the plurality of the hand-over means.

13. The transferring apparatus according to Claim 1,
wherein each of the carried products comprises a substrate wafer.

14. The transferring apparatus according to Claim 13,
wherein the substrate wafer comprises a semiconductor wafer.

15. The transferring apparatus according to Claim 1,
wherein each of the carried products comprises an electronic device manufacturing substrate.

16. The transferring apparatus according to Claim 15,
wherein the electronic device manufacturing substrate comprises a liquid crystal device substrate.

17. The transferring apparatus according to Claim 15,

wherein the electronic device manufacturing substrate comprises a quartz device substrate.

18. The transferring apparatus according to Claim 1,
wherein the transferring apparatus is integrated with each of the carrying apparatuses.

19. The transferring apparatus according to Claim 18,
wherein each of the carried products comprises a substrate wafer.

20. The transferring apparatus according to Claim 19,
wherein the substrate wafer comprises a semiconductor wafer.

21. The transferring apparatus according to Claim 18,
wherein each of the carried products comprises an electronic device manufacturing substrate.

22. The transferring apparatus according to Claim 21,
wherein the electronic device manufacturing substrate comprises a liquid crystal device substrate.

23. The transferring apparatus according to Claim 21,
wherein the electronic device manufacturing substrate comprises a quartz device substrate.

24. A carrying apparatus comprising:

a plurality of carrying means, each carrying means including:

support means for supporting carried products,

guide means for controlling the moving direction of the support means, the guide means being provided along a processing apparatus for processing the carried products, and

moving means for moving the support means along the guide means;

and

transferring means being provided between the plurality of carrying means, wherein the transferring means includes:

synchronization control means for synchronizing the moving means of one carrying means with the moving means of another carrying means; and

at least one hand-over means for receiving the carried products from the support means of the one carrying means and handing over the carried products to the support means of the other carrying means.

25. The carrying apparatus according to Claim 24,

wherein the hand-over means receives some carried products selected among the plurality of the carried products which are carried by the one carrying means.

26. The carrying apparatus according to Claim 24,

wherein the hand-over means receives all the carried products among the plurality of the carried products which are carried by the one carrying means.

27. The carrying apparatus according to Claim 24, further comprising at least one buffer means for temporarily storing the carried products between the one carrying means and the other carrying means.

28. The carrying apparatus according to Claim 27, wherein the transferring means apparatus is integrated with the carrying means.

29. The carrying apparatus according to Claim 28, wherein each of the carried products comprises a substrate wafer.

30. The carrying apparatus according to Claim 29, wherein the substrate wafer comprises a semiconductor wafer.

31. The carrying apparatus according to Claim 28, wherein each of the carried products comprises an electronic device manufacturing substrate.

32. The carrying apparatus according to Claim 31, wherein the electronic device manufacturing substrate comprises a liquid crystal device substrate.

33. The carrying apparatus according to Claim 31, wherein the electronic device manufacturing substrate comprises a quartz device substrate.

34. The carrying apparatus according to Claim 27,
wherein each of the buffer means is provided in combination with each of
the hand-over means.

35. The carrying apparatus according to Claim 27,
wherein the buffer means is shared by the plurality of the hand-over means.

36. The carrying apparatus according to Claim 24,
wherein each of the carried products comprises a substrate wafer.

37. The carrying apparatus according to Claim 36,
wherein the substrate wafer comprises a semiconductor wafer.

38. The carrying apparatus according to Claim 24,
wherein each of the carried products comprises an electronic device
manufacturing substrate.

39. The carrying apparatus according to Claim 38,
wherein the electronic device manufacturing substrate comprises a liquid
crystal device substrate.

40. The carrying apparatus according to Claim 38,
wherein the electronic device manufacturing substrate comprises a quartz
device substrate.

41. The carrying apparatus according to Claims 24 wherein the transferring means apparatus is integrated with the carrying means.

42. The carrying apparatus according to Claim 41, wherein each of the carried products comprises a substrate wafer.

43. The carrying apparatus according to Claim 42, wherein the substrate wafer comprises a semiconductor wafer.

44. The carrying apparatus according to Claim 41, wherein each of the carried products comprises an electronic device manufacturing substrate.

45. The carrying apparatus according to Claim 44, wherein the electronic device manufacturing substrate comprises a liquid crystal device substrate.

46. The carrying apparatus according to Claim 44, wherein the electronic device manufacturing substrate comprises a quartz device substrate.

47. A transferring method being performed between a plurality of carrying apparatuses, each carrying apparatus comprising:

support means for supporting carried products;

guide means for controlling the moving direction of the support means, the guide means being provided along a processing apparatus for processing the carried products; and

moving means for moving the support means along the guide means,

wherein, while the moving means of one carrying apparatus is synchronized with the moving means of another carrying apparatus, the carried products are received from the support means of the one carrying apparatus and handed over to the support means of the other carrying apparatus.